ABSTRACT OF THE INVENTION

A circuit for controlling a brushless permanent magnet motor is provided The circuit comprises windings, each of the windings having a first end connected at a common node and each of the windings having a second end connectable directly to supply voltages by switches, the second end connected to an upper supply voltage or connected to a lower supply voltage or disconnected from the supply voltages; blocking circuitry connectable with the second ends, the blocking circuitry producing a blocked voltage; a comparator receiving the blocked voltage on one input and a reference voltage on another input, the comparator result indicating polarity of a back emf voltage in the associated winding; and a latch providing control signals for the circuit, an input of the latch enabled by an enable signal, an output of the latch comprising a back emf voltage detection signal. The blocking circuitry and the comparator are duplicated for each of the windings.